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Docket No.: 050073-0030

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Customer Number: 20277
Yasuhiro MORII : Confirmation Number: 8907
Application No.: 09/588,478 : Group Art Unit: 2883
Filed: June 07, 2000 : Examiner: Timothy L. Rude

For: LIQUID CRYSTAL DISPLAY DEVICE AND PROCESS OF FABRICATING IT

REPLY BRIEF

Mail Stop Reply Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief is submitted in response to the Examiner's Answer dated June 14, 2005.

ARGUMENT

In the Appeal Brief dated March 29, 2005, Appellant presented arguments traversing each of the imposed rejections under 35 U.S.C. § 103. In the 18 page Examiner's Answer, the Response to Appellant's Arguments commences at page 17 and evinces a complete misunderstanding of Appellant's arguments. Appellant, therefore, would stress the pivotal issues involved in this Appeal.

1. The rejection of claims 15 and 16 under 35 U.S.C. § 103 for obviousness predicated upon Shimada in view of Yih, Suzuki, Utsumi and Shigeta.

In the statement of the rejection, the Examiner admits to a litany of gaps between the claimed method and Shimada's method. The Examiner then proceeds to identify isolated teachings in disparate references and then attempts to knit them together, guided by Appellant's disclosure only. In so doing the Examiner attempts to press fit pieces together pieces that simply do not mesh and, in the process, proceeds **against** the teachings of the primary reference to Shimada.

Specifically, each claim on appeal is directed to a method comprising a sequence of manipulative steps, which include defining a gap between the first and second substrates by disposing a spacer, which is smaller than the gap and having a functional group on a surface thereof, on a projecting pattern. Each independent claim on appeal further requires **all spacers** disposed at parts other than the projecting pattern to be brought into contact only with the orientation controlling membrane of either the first substrate or the second substrate using van

der Walls bonding or hydrogen bonding. The Examiner **admits** that these steps are not disclosed by Shimada.

The Examiner turns to Suzuki and concludes that one having ordinary skill in the art would have been motivated to modify Shimada's method by defining a gap between first and second substrates by disposing a spacer which is smaller than a gap on a projecting pattern, in view of Suzuki. However, Appellant does not agree that the requisite fact-based motivation has been established. Assuming that Shimada's device is modified as proposed by the Examiner, the claimed invention would not result. This is because, as clearly disclosed by Suzuki et al. in column 7, lines 18 through 26, and reproduced at the bottom of page 5 through page 6 of the Appeal Brief, the spacers must be **freely movable** in the panel when an external force is applied to the panel. This teaching of Suzuki is **inconsistent** with the claimed invention which requires all spacers disposed on parts other than the projecting pattern to be bonded to the orientation controlling membrane of the first or second substrate. Obviously, if the spacers are bonded, they cannot move freely.

Accordingly, giving the Examiner his way, the proposed combination of Shimada and Suzuki would **not** result in the claimed invention. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

The Examiner then does a complete turnaround by concluding that one having ordinary skill in the art would have been motivated by Utsumi to employ long-chain alkyl group coated spacers, and then determined that van der Wall or hydrogen bonding would inherently result. Appellant does not agree that the Examiner has established the requisite certainty to invoke the doctrine of inherency. At any rate, Appellant questions how the Examiner can rely upon **Suzuki**.

to obtain **freely moving spacers** and then put an adhesive coating on them so that they cannot move in view of Utsumi. The Examiner's attempted combination of references makes little technological sense.

Further, the Examiner cannot reconcile the explicit teaching in Utsumi to bond the spacers to **both** sides while backing into an inherency determination that they will only bond to one side. This approach has been judiciously condemned as **confusing obviousness with inherency**. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); *In re Shetty*, 566 F.2d 81, 195 USPQ 753 (CCPA 1977); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *In re Spormann*, 363 F.2d 444, 150 USPQ 449 (CCPA 1966); *In re Henderson*, 348 F.2d 550, 146 USPQ 372 (CCPA 1965).

As stated by the Honorable Board of Patent Appeals and Interferences in *S. 562 Ex Parte Shricker* 56 U.S.P.Q. 2d 1723, 1725 (BPAI 2000):

Inherency and obviousness are somewhat like oil and water-they do not mix well.

In order to establish the requisite realistic motivation, the Examiner must make clear and particular factual findings as to a specific understanding or specific technological principle and, based upon such facts, explain **why** one having the ordinary skill in the art would have been realistically impelled to modify particular prior art, in this case Shimada's method, to arrive at the claimed invention. *Ecolochem Inc. v. Southern California Edison, Co.* 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab*, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); *In re Dembiczaik*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999); *In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998). Rather than comply with judicial mandates, the Examiner attempted to modify Shimada by employing **inconsistent concepts** from Suzuki and Utsumi. Not only are the concepts of Suzuki (freely flowing spacers) and Utsumi (bonded

spacers) inconsistent with each other, but each of these concepts is inconsistent with the claimed invention and would not yield the claimed invention. The Examiner's approach is, therefore, devoid of the requisite technological fact-based realistic motivation.

Appellant, therefore, submits that the Examiner's rejection of claims 15 and 16 under 35 U.S.C. § 103 for obviousness predicated upon Shimada in view Yih, Suzuki, Utsumi and Shigeta is not factually or legally viable.

The rejection of claims 15 and 16 under 35 U.S.C. § 103 for obviousness predicated upon Shimada in view of Yih, Suzuki and Utsumi.

This rejection suffers from the same fatal flaw as the previous rejection, because the allegedly teaching reference to Suzuki **teaches away** from the claimed invention by requiring freely moving spacers. However, in accordance with the present invention, all spacers disposed at parts other than the projecting pattern are bonded to the orientation controlling membrane of either the first or second substrate. Accordingly, if Shimada's method is modified as suggested by the Examiner in view of Suzuki, the claimed invention would **not** result. *Uniroyal, Inc. v. Rudkin-Wiley supra*.

The Examiner also relied upon Utsumi for providing a long-chain alkyl group on the spacers. If this is done, the Examiner says that the spacers will be inherently bonded to the orientation controlling membrane of either the first or second substrate, never mind that Utsumi wants the spacers bonded to **both** substrates, and never mind that Suzuki wants the spacers to be **freely flowable**. Again, the Examiner has attempted to bridge the admitted lacuna between the claimed invention and Shimada's method by attempting to combine two incompatible references, *i.e.*, Suzuki (freely flowing spacers) with Utsumi (bonded spacers). This approach is devoid of

any technological reasoning. Moreover, each of Suzuki and Utsumi **teaches away** from the claimed invention, for reasons previously advocated.

Appellant, therefore, submits that the imposed rejection of claims 15 and 16 under 35 U.S.C. § 103 for obviousness predicated upon Shimada in view of Yih, Suzuki and Utsumi is not factually or legally viable.

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Evidence of nonobviousness.

As previously noted, each of Suzuki and Utsumi **teaches away** from the claimed invention which requires that all spacers disposed at parts other than the projecting pattern to be bonded to the orientation controlling membrane of either the first or second substrate. This clear and unambiguous **teaching away** from the claimed invention by the allegedly teaching references constitutes a potent indicia of **nonobviousness**. *Ecocolochem Inc. v. Southern California Edison, supra. In re Bell, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); Specialty Composites v. Cabot Corp., 845 F.2d 981, 6 USPQ2d 1601 (Fed. Cir. 1988); In re Hedges, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); In re Marshall, 578 F.2d 301, 198 USPQ 344 (CCPA 1978).*

Conclusion

Based upon the arguments submitted *supra*, and for those advanced in the March 29, 2005 Appeal Brief, Appellant submits that the Examiner did not establish a *prima facie* basis to deny patentability to the claimed invention under 35 U.S.C. § 103. Further, in view of the potent indicium of **nonobviousness** stemming from the teaching away from the claimed invention by two of the Examiner's allegedly teaching references (Suzuki and Utsumi), the conclusion

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appears inescapable that one having ordinary skill in the art would not have found the claimed subject matter **as a whole** obvious within the meaning of 35 U.S.C. § 103.

Appellant, therefore, solicits the Honorable Board to reverse each of the Examiner's rejections under 35 U.S.C. § 103.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Arthur J. Steiner
Registration No. 26,106

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 AJS:MWE:ntb
Facsimile: 202.756.8087
Date: August 10, 2005

**Please recognize our Customer No. 20277
as our correspondence address.**